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## EXCEPTION

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Gentlemen:

This letter will critique the two most oft-repeated statements attributed to the Home Owners Association and others on the subject of CAP water.

## 1. ON SAVING SUN CITY GOUNDWATER

"Save Sun City groundwater by not using golf course wells." We hear this refrain every time someone from Home Owners Association talks about CAP water. Stated another way: "If we do not pump, our water level will not go down!" Sounds logical. But wait. What if our neighbors in Peoria, El Mirage, and Surprise do not stop their wells? Are our wells somehow cursed and thus only our wells can cause the water level to drop in our neighborhood? Not likely. It's a good bet the Peoria / et al wells will have the same effect on the water level as ours. If those cities pump, their level will recede. And if they do not, their level will not recede.

If our water level does not go down because we do not pump, but the level of our neighbors does recede, what will prevent "our" water from migrating to that lower level? The answer is, nothing! On this planet' watery fluids tend to seek their own level. And so, if our water level will tend to reflect that of our neighbors, what have we gained by not pumping?

If there is no tangible gain to Sun City because our water level will continue to reflect that of our neighbors, why does the Home Owners Association and Citizens Utilities expect us to pay \$15,000,000 for a CAP water conveyance system that will not benefit us?

## 2. ON REDUCING OUR RISK TO SUBSIDENCE

The other buzz word used by the Home Owners Association CAP advocates is "subsidence". Subsidence occurs when the deep underground gravel/sand/clay/etc in the aquifer is squashed or compressed by the weight of the water and gravel above. Groundwater tends to mitigate the intergrandular pressure down below because it has a buoyancy effect on the submerged sand/gravel etc. That effect ends at the water level. And so

when that water level drops, the total buoyancy amount is reduced and the stress on the lower gravel/sand/etc increases in some proportion to that drop. When an aquifer is deep enough and the buoyancy effect is small enough, some of the aluvium can be squashed.

Some letters, quotes, and pamphlets attributed to Home Owners Association about the CAP issue mention the specter of subsidence but do not fully describe the phenomenon. Some also imply we can thwart this disaster if we reduce golf course pumping. I can show you how this argument is fatally flawed. But it requires a little bit of imagination.

Lets pretend that all groundwater we do not pump will remain in place. And so each year 3811 acre-feet of water would accumulate under Sun City. And if it were evenly distributed under Sun City that "new" water would be a little less than 6 inches deep. Thus after 20 years, theoretically we would now have an extra 10 feet of water under us (Remember we are still pretending). That's a sizable chunk of water: 10 feet deep under our entire area.

If the good people of Sun City spend \$15,000,000 to \$20,000,000 over 20 years and endure the mess of the construction, I'm sorry to report that the stress on the aluvium would have been reduced only about one/half of one percent! WHICH MEANS: IF WE ARE IN DANGER OF SUBSIDING TODAY, AS HAS BEEN HINTED / IMPLIED BY SOME PEOPLE, STATISTICALLY WE WILL BE IN THE SAME DANGER 20 YEARS AFTER THE GOLF COURSE WATERING PROJECT STARTED OPERATION! I have the calculations to back up this claim.

Obviously, the CAP Golf Course scheme should be tossed in the trash can where it belongs.

I respectfully recommend that/Sun City utilize the AUGA FRIA RECHARGE PROJECT when we begin taking our CAP allotment. No capital investment would be necessary, the project would come on line sooner, the monthly charge would be a fraction of that for the golf course scheme, and there would be no complex piping, pumping, and water storage facilities to maintain. If the Corporation Commission adopts the CAWCD recharge option, it would demonstrate the has the skills and the fortitude to see the many flaws in the proffered project that the niave golf course sponsors could not.

Very truly yours

  
Donald J. Coleman

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